

List of Claims

1-11. (cancelled)

12. (previously presented) A method of making an axial piston pump barrel, comprising the steps of:

positioning a central bore core in a mold;

positioning a ring shaped core in the mold to encircle the central bore core;

pouring metal around the ring shaped core and the central bore core to produce a casting in which a central bore defined by the central bore core is fluidly isolated from a cavity defined by the ring shaped core; and

removing the ring shaped core from the casting.

13. (original) The method of claim 12 including a step of supporting said ring shaped core in a mold atop a plurality of pillars.

14. (previously presented) A method of making an axial piston pump barrel, comprising the steps of:

positioning a central bore core in a mold;

positioning a ring shaped core in the mold to encircle the central bore core;

pouring metal around the ring shaped core and the central bore core to produce a casting in which a central bore defined by the central bore core is fluidly isolated from a cavity defined by the ring shaped core;

removing the ring shaped core from the casting;

supporting said ring shaped core in a mold atop a plurality; and

forming said ring shaped core to include a ring portion and a plurality of pillars extending away from said ring portion parallel to one another.

15. (original) The method of claim 14 including a step of mating said plurality of pillars to counterpart pillar bores in a base core.

16. (original) The method of claim 12 wherein said removing step includes a step of breaking said ring shaped core into smaller pieces.

17. (previously presented) The method of claim 12 including a step of machining a plurality of parallelly oriented openings in the casting.

18. (original) The method of claim 12 including a step of attaching a plurality of check valves to the casting.

19. (original) The method of claim 18 including a step machining a conical valve seat for each of said plurality of check valves.

20. (currently amended) A method of making an axial piston pump barrel, comprising the steps of:

positioning a central bore core in a mold;

positioning a ring shaped core in the mold to encircle the central bore core;

pouring metal around the ring shaped core and the central bore core to produce a casting in which a central bore defined by the central bore core is fluidly isolated from a cavity defined by the ring shaped core;

removing the ring shaped core from the casting;

-attaching a plurality of check valves to the casting;

machining a conical valve seat for each of said plurality of check valves; and

wherein said attaching step includes a step of positioning each of said check valves in contact with one of said conical valves seats.

21. (new) The method of claim 12 wherein the central bore core extends across the mold such that the casting has a central bore completely therethrough.

22. (new) The method of claim 21 wherein the central bore core positioning step includes a step of contacting a first central bore core with an additional central bore core within the mold.

23. (new) A method of making an axial piston pump barrel, comprising the steps of:

positioning a central bore core across a mold;

supporting a ring shaped core in the mold to encircle the central bore core via a plurality of support separated from the central bore core;

pouring metal around the ring shaped core and the central bore core to produce a casting in which a central bore defined by the central bore core extends through the casting;

removing the ring shaped core from the casting; and

attaching at least one check valve into the casting in fluid contact with a ring shaped cavity left by the ring shaped core.

24. (new) The method of claim 23 wherein the supporting step includes supporting the ring shaped core atop a plurality of pillars oriented in parallel with the central bore core; and

the attaching step includes a step of locating a check valve in each void left by each of the plurality of pillars.

25. (new) The method of claim 24 including a step of maintaining a position of the ring shaped core during the pouring step at least in part by receiving one end of each of the plurality of pillars in a respective pillar bore.

26. (new) The method of claim 23 including a step of forming a plurality of piston bores at locations around, and parallel to, the central bore, and each piston bore opening into a ring shaped cavity left by the ring shaped core.

27. (new) The method of claim 26 including a step of machining a conical valve seat into a surface that defines the ring shaped cavity; and

contacting the valve seat with the check valve.

28. (new) The method of claim 27 wherein the supporting step includes supporting the ring shaped core atop a plurality of pillars oriented in parallel with the central bore core;

the conical valve seat machining step includes a step of machining a conical valve seat into the surface that defines the ring shaped cavity adjacent each of the piston bores; and

the attaching step includes a step of attaching a check valve in each void left by each of the plurality of pillars in contact with a respective one of the conical valve seats.

29. (new) The method of claim 28 including a step of maintaining a position of the ring shaped core during the pouring step at least in part by receiving one end of each of the plurality of pillars in a respective pillar bore.